Space Weather Forecast

Issued on Sunday, 07 April 2024 at 01:17 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: No significant activity.

Analysis of Space Weather Activity over past 24 hours.

Solar Activity: Low with only one common class flare observed at 06/0121 UTC from the northeast limb. There are six sunspot regions on the visible disc. The largest has recently seen some small growth to develop a bipolar configuration, however this development appears to have stalled. The other regions remains small and simple.

No Earth-directed coronal mass ejections (CMEs) have been observed

Solar Wind / Geomagnetic Activity: Solar wind was slightly enhanced due to a combination of the receding fast wind from a coronal hole coupled with a weak transient enhancement. Observed speeds were slightly elevated at 400-500km/s. Total Interplanetary Magnetic Field strength, was initially Moderate but soon eased to be mainly weak. The north-south component, was weak and mostly negative (southward), and only brief spells of positive (northward). Geomagnetic activity was Quiet to Unsettled (Kp 1-3).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) was at background levels with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Low to Very Low activity is expected through the period, with a slight chance of isolated Moderate flares. This risk likely increasing a little through the period

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs. Solar wind speeds are slightly elevated at between 400-460 km/s with a declining trend likely day 1-2 (07-08 Apr). The next enhancement from a weak coronal hole is most likely to occur later day 2, with ongoing effects on day 3 (08-09 Apr). Geomagnetic activity is forecast to be mainly Quiet with Unsettled intervals, but increasing to Unsettled with Active intervals on day 2-3 with any fast wind enhancement.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is expected to remain at background levels.

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	5	5	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	15	20	25	30
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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